News and Views from the Literature

Nocturia

Is Nighttime Voiding Normal or Anomalous?

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Nocturia, a common condition that is experienced by many people with various diseases, is particularly bothersome in the elderly. Many urologists would agree that nocturia is the single most troubling symptom of their patients with overactive bladder and benign prostatic hyperplasia (BPH).

In the general medical community, nocturia is regarded as a normal part of the aging process. Consequently, many patients do not seek or receive help for this bothersome condition, and thus we are not fully aware of the scope of the problem, nor do we know its effects in the general population or on normal daily living. Significant strides can be made in the diagnosis and therapeutic treatment of this symptom only upon resolution of the fundamental question: What is nocturia? Unless there is consensus, under treatment of this disabling symptom will continue.

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Lower Urinary Tract Symptoms and Nocturia in Men and Women: Prevalence, Etiology, and Diagnosis

Jackson S.
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Few published studies exist defining the presence of lower urinary tract symptoms (LUTS) and nocturia in pediatric and adult populations. In Jackson's review of the literature, studies of children were especially scarce. He presents a study by Mattson[1] of 240 healthy children between the ages of 7 and 15 years old over a three-month period. Reported findings showed that 15% of children had incontinence; in addition, 35% had occasional nocturia (defined as any micturition at night) and 4% had nocturia every night. The study found no correlation between incontinence, nocturnal micturition, and fluid intake.

More data are available in reviewing the incidence of nocturia in men. According to Jackson, this may be due to studies of prostatism. Clinical findings by Garraway and colleagues[2] depict the prevalence of urinary symptoms in males in a general community in Scotland. Seventy-eight percent of men had single episodes of nocturia. Using a definition of nocturia of two or more micturitions a night, 23% of men in this study had occasional episodes and 7% had frequent nocturia, thus giving an overall prevalence of 30%. In the United States, a population-based survey performed by Chute and associates[3] of male urinary symptoms found that the prevalence of nocturia (more than two micturitions at night) increased with age from 16% in men aged 40 to 49 years, to 29%, 42%, and 55% in men ages 50 to 59 years, 60 to 69 years, and over 70 years, respectively. The prevalence of nocturia increased with age from 30% in men aged 45 years to 80% in those aged 80 years. Nocturia was the most prevalent symptom for all ages, with other urinary symptoms showing less increase in prevalence with increasing age.

Only recently has nocturia been studied in relation to women. Swithinbank and colleagues[4] published the following findings: nocturia (defined as more than 2 micturutions per night) increased with age from 9% in women aged 19 to 39 years to 51% in those over 80. These findings appear similar to results found in men.

Jackson concludes that lack of a universally accepted definition of nocturia has led to wide variations in reporting of prevalence. The prevalence rate is affected by age and may occur in 10% of adults age 40 years to more than 80% in those over 80 years of age. Research has also shown that nocturia is a highly bothersome symptom with a multifactorial etiology. Self-reporting of nocturia is reliable, especially when a urinary diary is used. It is important to investigate the underlying etiology and treat it appropriately. Jackson concludes with the recommendation that nocturia requires further study in children and women. Treatment strategies must focus on etiologies.

References

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3. Chute CG, Panser LA, Girman CJ, et al. The prevalence of prostatism: a population-based survey of urinary symptoms. *J Urol.* 1993;150:85-89.
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Nocturia: A Disease or Normal Aging?

Fonda D.
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Nocturia increases with advancing age; more than 80% of people over the age of 80 rise at least once a night to void. According to Fonda, the normal range of nighttime awakenings to void must be standardized in order to assess effectively for any changes from the norm. Variations in age, sex, and cultural differences must also be considered. Another factor to consider is that nocturia is often underreported, especially among older people who tend to consider it untreatable and a normal part of aging.

There must be a greater understanding of whether nocturia is a result of a person voiding "more urine" and/or voiding "more often," and whether sleep disturbances may contribute to the problem. There are many factors associated with nocturia that can cause polyuria and/or nocturnal frequency: aging, psychological or behavioral changes, alterations in sleep patterns or amount of time spent in bed, polyuria syndromes, bladder problems, and neurological changes. They can occur alone or in combination with each other.

With advancing age, more time is spent in bed. Nocturia should be considered both as a disease and as part of normal aging. In managing the older person, Fonda posits that nocturia must be assumed to be a disease upon initial assessment. It should be fully evaluated so that appropriate treatment, if available, can be given. The results of nocturia in older people are lack of sufficient rest, daytime sleepiness, a risk of falling and fracturing a limb, and nocturnal enuresis.

Nocturia is generally regarded as a normal part of the aging process.

Fonda concludes with a plea for prospective studies of older people with nocturia. The relative importance of various etiological factors must be considered to assist the targeting of clinical trials to the most responsive groups.

Reference

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Prostate Cancer

Cyclooxygenase-2 as a Marker for Prostate Cancer

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A great deal of basic and clinical evidence is emerging that indicates that cyclooxygenase-2 (COX-2) may be a useful marker and a potential target for prostate cancer detection and treatment. It is known that COX-2 is an essential enzyme in the very early phases of prostaglandin synthesis from arachidonic acid. Nonsteroidal anti-inflammatory drugs (NSAIDs) act through inhibition of the cyclooxygenase enzymes. Population-based, case-control studies have suggested a reduced risk of prostate cancer with regular use of NSAIDs. The recent discovery by several pharmaceutical groups of specific inhibitors of the COX-2 protein has ignited great interest in the use of these agents for chemoprevention and/or treatment of prostate cancer. In a recent paper in the *British Journal of Urology International*, Madaan and colleagues demonstrated overexpression of the COX-2 enzyme in human prostate cancer.

Cytoplasmic Induction and Over-expression of Cyclooxygenase-2 in Human Prostate Cancer: Implications for Prevention and Treatment

Madaan S, Abel PD, Chaudhary KS, et al.
BJU Int. 2000;86:736-741.

The authors assess the level and morphologic distribution of both cyclooxygenase-1 (COX-1) and COX-2 in human prostates and investigated whether or not there was a relationship between the concentrations of these enzymes and the Gleason histologic grading of prostate cancer tissue. In this retrospective study, they analyzed prostate tissue from 30 patients with histologically confirmed benign prostatic hyperplasia (BPH) in 82 prostate cancer tumors. The authors used immunohistochemistry to assess the expression of both COX-1 and COX-2. In addition, they used Western blot techniques to study 13 samples (6 BPH and 7 cancer) for the presence of these enzymes. Although COX-1 expression was in fact found in the stromal